Claims

1-21 Canceled

22. (New) A method for calibrating a drive current of at least one electrically operable actuator for controlling flow of a fluid responsive to a differential pressure, the method comprising:

determining in advance an indicator of an influence of a pressure caused by the actuator by an intensity of the electric actuation of the actuator, with one or more actuator-related characteristic curves, characteristic fields, or parameters for the actuator being taken into account so that a nominal flow can be adjusted in a defined fashion in dependence on the current intensity; and

automatically establishing the actuator-related parameters without using pressurizations of the actuator.

23. (New) A method according to claim 22, wherein at least one of an opening travel or a spring force of the actuator is determined for the calculation of the actuator-related parameters.

24. (New) A method according to claim 22, wherein general parameters, other than the actuator parameters, related to the line of products are taken into consideration for calculating the drive current.

25. (New) A method according to claim 24, wherein the general parameters of the actuator, related to a line of products, are durably stored in a memory, and the stored parameters are transferred into the accumulator at or before the end of the assembly line.

26. (New) A method according to claim 22, wherein a functional interrelationship of the flow G dependent on the drive current I is approximated according to the formula G =

G_0 + m * I, where the pressure gradient G_0 at a current of I = 0 is determined by measuring at least one individual magnetic parameter, with the valve open or closed, and at least one parameter is determined by measuring the magnetic resistance, with the valve open and closed.

27. (New) A method according to claim 22, wherein a tappet force or a magnetic resistance is determined as actuator-related parameters.

28. (New) A method according to claim 27, wherein a position of the tappet is determined from the tappet force or the magnetic resistance.

29. (New) A method according to claim 22, wherein a voltage induced at the drive coil as a consequence of a current variation is measured and more particularly integrated.

30. (New) A method according to claim 22, wherein a flux or the magnetic resistance is controlled via a control loop.

31. (New) A method according to claim 22, wherein at least one of a holding current or an opening current of the actuator is determined from the actuator-related parameters.

32. (New) An actuator with at least one electromagnetically operable hydraulic valve, comprising:

an electromagnetic coil (6) and a tappet (8) moved by an armature (7), wherein the armature is moved, influenced by a current, to open or close the actuator; and

one or more additional measuring elements utilized to determine a magnetic flux.

33. (New) An actuator according to claim 32, wherein the additional measuring element is a measuring coil (2).

34. (New) An actuator according to claim 32, wherein the measuring element determines the magnetic flux of at least one actuator component.

35. (New) A method for adjusting an opening position or the flow through an electrically drivable actuator, the actuator having an electromagnetic coil (6) and a tappet (8) moved by an armature, the method comprising:

arranging in the area of the actuator at least one measuring element, such as a measuring coil; and

controlling a drive of the actuator by using a measuring signal of the measuring element.

36. (New) A method according to claim 35, wherein the measuring signal of the measuring element is a voltage.

37. (New) A method according to claim 36 further comprising:

determining from the integrated voltage a magnetic flux; and

determining at least one of the magnetic force or the tappet stroke from the determined magnetic flux.

38. (New) A method according to claim 35, wherein a valve opening current is corrected by a correction term which also takes into consideration a current-responsive influence of a ferromagnetic circuit.

39. (New) A method according to claim 35, wherein initially a valve holding current is

calculated, and a valve opening current is determined based on the valve holding current via an additional correction term or an offset.

40. (New) A method according to claim 35, wherein the actuator is driven by a pulse-width modulated current, a coil resistance is determined by a duty cycle of the PWM actuation, and the coil resistance is also taken into account in the calculation of the parameters in each individual actuator.

41. (New) A method for measuring the pressure of a fluid by an electromagnetically driven without utilizing additional pressure sensors, the method comprising:

controlling a tappet position by using an electric control circuit; and

calculating a pressure in the fluid line or a pressure difference in the actuator from a force that acts on the tappet, wherein the force can be measured electrically.